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ABSTRACT

This study evaluated the hypothesis that the proportion of lower-level students to total students has an effect on the amount of funding that universities receive. Data on public baccalaureate or higher-degree-granting institutions were obtained from the 1994-95 Integrated Postsecondary Education Data System (IPEDS) survey. Multivariate analysis indicated that the higher the percentage of lower-level students enrolled in an institution, the lower the level of its funding. Based on this analysis, for each 1 percent increase in the number of lower-level students, funding decreased by $401,434. These results are discussed in light of economic retrenchment in public universities in Florida, which have a high percentage of upper-level students as a result of strong articulation agreements with community colleges. Since Florida's universities have a low proportion of lower-level students compared to the average university, their funding level per full-time equivalent (FTE) student should be higher than the average university. In fact, the actual state university system average funding per FTE student was $10,088, in comparison to the predicted amount of $10,869 per FTE student. (Contains 14 references.) (MDM)

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THE BREAKDOWN OF CONSENSUS: CHANGING PUBLIC POLICY

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This paper was presented at the Thirty-Eighth Annual Forum of the Association for Institutional Research held in Minneapolis, Minnesota, May 17-20, 1998.
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Dolores Vura
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CHANGING PUBLIC POLICY:
THE BREAKDOWN OF CONSENSUS

ABSTRACT

For decades, the social contract for most state, public universities has been one of low tuition combined with state funding to provide wide access to postsecondary education. This consensus worked until fiscal restraint of the 1980's tightened state university budgets. Florida's public universities cut costs but were unable to raise tuition due to restrictions in state law. The strong articulation agreement between community colleges and universities provides a skewed university population by increasing the proportion of upper level students to lower level students. While funding per full-time-equivalent student in Florida dropped to U.S. average levels, theoretically, the actual cost per student should be higher than average because of a relatively smaller number of less expensive lower level students. Analysis of this theory showed that funding per FTE student decreases with a higher proportion of lower level students. The implication for Florida is that funding does not reflect the realities of student population distribution.

THE BREAKDOWN OF CONSENSUS: CHANGING PUBLIC POLICY

INTRODUCTION

In order for higher education to function effectively, the populace and government need to reach a consensus of public policy needs (Callan, 1994). In the 1960's and 1970's, the primary consensus in the state of Florida included low tuition, access to higher education, and state funding to supplement low tuition. Since that time, however, consensus, in Florida as in many states, has broken down particularly in view of flat or declining state support (Healy and Schmitt, 1997) and efforts to maintain low tuition.

Increased demand for higher education from a growing population has forced many higher education institutions to rapidly increase tuition above the level of inflation (Commission on National Investment in Higher Education). While increased tuition is an option for universities in many states, Florida law restricts tuition increases for public universities by limiting the Board of Regents authority to set tuition at a maximum of 25 percent of the cost of instruction. Tuition or fee changes are also subject to legislative approval in the General Appropriations Act. When public university tuition levels in 1996-97 and 1997-98 for an undergraduate education are ranked by state with highest tuition being number one, Florida ranked forty-ninth. Tuition has been kept intentionally low to fulfill a purpose of state higher education "...which enables students...to participate in the search for knowledge..." (Florida Statutes 240.105(1).

In California, limited resources combined with declining state support have resulted in decreased opportunities for higher education. This was accomplished by decreasing enrollment

at a time of increased demand with a view to providing a high quality education to those students who do attend (Callan). Florida continues to admit students despite space limitations. Between 1986 and 1996, classroom and teaching laboratory square footage increased by 18 percent while total full-time- equivalent (FTE) students increased by 42 percent. Nevertheless, access for Florida's population to higher education continues to be a high priority in public policy.

Gilley (1991) states that access to universities is becoming more of a community college function. Florida has been a pioneer in the development of a community college system. Throughout the years, efforts have been expended to provide a seamless articulation between community colleges and universities. As a result of a strong articulation agreement, public universities in Florida have, relative to the national average, a higher percentage of students concentrated in the upper level (junior and senior) compared to lower level (freshman and sophomore). Between the 1986-87 academic year and 1996-97, the percentage of upper level students has remained constant at 65 percent. Of all 50 states, Florida ranks second, behind California, in the highest proportion of upper level students. The average for the United States is 50 percent.

Despite continued enrollment growth and limited tuition increases, state general revenue per full-time-equivalent student has declined, hence, breaking the social contract, or consensus as described by Callan (1994). Between 1987-88 and 1996-97, state general revenue adjusted for inflation increased by eight percent. FTE students attending state universities, however, increased by 38 percent, far outstripping any gains in funding. Even with declines in funding relative to FTE growth, legislators continue to point to funding per FTE student to demonstrate that the universities are still adequately funded. Compared with the other states, Florida is about

even with the national average for funding per FTE.

If funding per FTE student is equal to the U.S. average, why, then, do public universities in Florida express concern over funding to provide students with a quality higher education? Perhaps it is because high numbers of community college transfers enter as juniors into the university system. Most lower level students in universities are obtaining general education requirements in classes frequently taught in large lecture halls by a professor assisted with teaching assistants or by graduate teaching assistants alone. Student-faculty ratios are higher for lower level classes. Also, while technology, particularly computers, may be used in lower level classes, intensive use of expensive technology is generally reserved for upper level students. Hence, lower level classes are hypothesized to cost less than upper level classes.

The purpose of this study is to evaluate the hypothesis that the proportion of lower level students to total students has an effect on the amount of funding which universities receive. If this is true, then Florida's funding per FTE student should be higher than the U.S average because of its lower proportion of lower level students . The expected sign of the multiple linear regression coefficients would be positive for total FTE students, indicating that funding increases with enrollment increases. The sign of the percentage of lower level students coefficient is expected to be negative reflecting decreased funding for lower level students.

METHODOLOGY

The National Center for Education Statistics, a division of the U.S. Department of Education, maintains the an extensive national database of college and university data called IPEDS (Integrated Postsecondary Education Data System). The 1994-95 IPEDS database

contains substantial information, including institutional characteristics and financial data. For the purposes of this study, the unique institution identifier, institution name, Carnegie classification, FTE students, and funding were the necessary data components.

The Fall 1994 IPEDS Enrollment database file (EF94_ARK.DAT) was used as the source of enrollment data for the regression model. That database contains student headcount enrollment by institution, by gender, by ethnic category, by student attendance (full- or part-time), and student level. Undergraduate student headcount data are categorized into the following levels in the database:

1. First time in college (FTIC) students
2. Other first year students
3. Second year students
4. Third year students
5. Fourth year students
6. Unclassified undergraduates
7. All other undergraduates

Full-time student headcount data were converted to FTE students on a one for one basis. Part-time student headcount data were converted to FTE students by dividing the headcount data by three. Thus, each part-time student headcount was assumed to be equivalent to one-third of an FTE student. Combining FTIC, other first year, and second year students yielded the number of lower-level FTE students at each institution. The same procedure was used for upper, unclassified, and graduate levels of student headcount data to provide information to determine

the total FTE students at each institution. The percent of lower level students was calculated by dividing total lower level FTE students by total FTE students and then multiplying the result by 100.

IPEDS includes all postsecondary institutions. Since the state universities of Florida were the institutions under consideration, certain criteria were in effect for selecting institutions for analysis. For comparison purposes, only four-year, baccalaureate or higher degree granting institutions were selected. Also, only public universities were included in the analysis. The primary purpose of this study was to evaluate the effect of public funding on universities.

Funding information, including state and local allocations as well as funding from tuition and fees, was obtained from the IPEDS 1994-95 Finance Survey file, F9495-A.DAT. The 1994-95 data was the most recent financial data available.

Linear multiple regression models were tested using SPSS for Windows Version 6.1. To avoid multicollinearity problems, and at the same time, examine the effect of a relatively small number of lower level students, a model was developed that used total FTE students and the percentage of lower level FTE students to the total as independent variables. Also, five zero-one dummy variables were added to indicate the presence of first-professional medical (including O.D.), veterinary medicine, dental, and law programs and doctoral programs in agriculture and natural resources. Diagnostics indicated that this model had multicollinearity problems when the dental variable was included and the law variable was statistically insignificant. Thus, the final model included the two FTE student variables mentioned above along with a zero-one variable for first-professional medical programs, a zero-one variable for first-professional veterinary medicine programs, and another zero-one variable for doctoral programs in agriculture or natural

resources.

RESULTS

As can be seen from the Equation 1, R^2 was .904 meaning that 90.4 percent of the variation in total funding can be explained by total FTE students, percent lower level students, the first-professional medical and veterinary medicine variables, and the agricultural doctoral program variable. The F-test for the model was significant at less than 0.01, indicating a very strong model. Similarly, coefficients for all of the independent variables were significant at less than 0.01 level.

$$Y_{totapr} = -794{,}506 + \underset{\{t < .01\}}{10{,}199X_{totfte}} - \underset{\{t < .01\}}{401{,}434X_{pctll}} + \underset{\{t < .01\}}{68{,}161{,}590X_{med}} + \underset{\{t < .01\}}{28{,}913{,}373X_{vetmed}} + \underset{\{t < .01\}}{40{,}929{,}417_{agrdoc}} \quad (1)$$

$$R^2 = .904 \qquad F = 838.107 \qquad F^* < .01$$

totapr - total appropriations (state + local + tuition)

totfte - total full-time equivalent (lower + upper + graduate)

pctll - percent lower level students

med - dummy variable for universities with a medical school

vetmed - dummy variable for universities with a veterinarian school

agrdoc - dummy variable for universities with doctoral programs in agricultural and natural resources

As hypothesized, the sign is positive for total FTE, indicating that funding increases as the total number of students increases. For percent lower level students, the sign is negative

which indicates that funding is lower as the percentage of lower level students increases.

CONCLUSIONS

Based on this analysis, for each increase of one percentage point of lower level students, funding decreases by $401,434. Conversely, a higher proportion of upper level and graduate FTE students results in an increase in total funding. Since Florida's universities have such a low proportion of lower level students compared to their total FTE students, their funding will be higher per FTE than other, comparable universities which have a higher proportion of lower level students. Stated differently, the actual SUS average funding per FTE student is $10,088 in comparison to the predicted amount of $10,869 per FTE student, an under funding of $781 per FTE student.

Though average funding per FTE student for SUS institutions is somewhat high compared to other universities, the SUS institutions also have a lower proportion of lower level students compared to comparable institutions in other states. When this factor along with the presence of first-professional medical and veterinary medicine programs along with doctoral programs in agricultural or natural resources are controlled, funding of SUS institutions is, with the exception of UF, FAMU, and UWF, below that of other comparable universities.

Complicating the problem of low state funding has been the policy of low tuition. As mentioned earlier, state policy has been one of low tuition to make universities more accessible to Florida residents and university enrollment has been increasing. Nevertheless, certain mechanisms have ensured restrictions on enrollment growth. With an average of 16,777 FTE students per public university, Florida ranks fifth of all 50 states in largest number of students per

institution. Current projections to the year 2010 show continuing growth in enrollments will only exacerbate the problem. Because of high demand for entry due to low tuition, universities have been "raising the bar" for admittance. With facilities near capacity, universities have been raising the SAT and GPA standard of entering students.

One of the planning directive goals of the agency strategic plan is to "establish a stable, reliable source of state funding." Several reasons exist as to the lack of stable funding, but one of the primary reasons is what former Chancellor Reed termed the "goofy" tax system of the state. Florida has no personal income tax; rather, it relies on a sales tax. For stability in funding the sales tax has two things wrong with it. As stated by Chancellor Reed, one of its failings is the large number of exemptions to the tax granted by the legislature to business and industry. As the number of exemption increases, the base for the tax funding decreases.

Another drawback of the state sales tax is the reliance of the state on tourism. Because of this reliance, a slight downturn in the national economy results in a major downturn in the Florida's economy as potential tourists opt to stay close to home. With no spending on hotels, transportation, or attractions, no sales tax is generated.

Besides the difficulty in stable funding from the sales tax, its regressive nature affects those least able to pay a higher tax rate. Though dated, a study by the Carnegie Commission on Higher Education (1973) determined that when taxes were regressive and tuition was low, those in lower incomes least likely to continue in college were the ones subsidizing the tuition of those in higher incomes. Short of reverting to a more progressive tax structure, the Carnegie Commission on Higher Education recommends equitable tuition combined with sufficient financial aid support for those unable to pay it.

Problems with the funding of Florida's public universities can only become worse. The budget is planned each year for approval by the legislative session. By no means is the budget rubber stamped. The budget proceeds in fits and starts through the legislative system. Each legislative member has a vested interest in amending the budget which at times can be for personal ideological reasons. For example, in 1997, a senator wanted to drastically decrease funding for a university because it had invited a gay speaker to a student event that was paid for by student activity fees.

Fundamentally, the problem is the lack of a comprehensive, long-term plan for the future of higher education in Florida that can reestablish the contract between the state and its residents. The plan needs to be developed and adhered to and not be subject to the whims of political pay backs or retribution. Recently, a controversy between a university president and the Board of Regents resulted in legislation by supporters of the president to limit Board functions and removal of the Board chairman.

Without a plan, the state abdicates its responsibility to the governing of the universities. Universities continually seek funding they cannot get from public sources, but in doing so they become subject to the whims of contributors. In the earlier example of the university president at odds with the Board of Regents, one reason frequently posited for not firing him was that the university was in the middle of a huge capital campaign and that the loss of the president would hinder the success of that campaign.

A strong plan that is supported by all parties involved would provide the framework necessary to guide the universities into the future. Adherence to the plan, however, would take great self control from all parties. The legislature could not capriciously alter the agreement with

new legislation enacted due to some perceived slight or personal vendetta. Universities would be bound by the constraints despite what a major donor would want. Students would be served by knowing what was expected. Universities would need to limit "mission creep" since they would not all have to become research universities in an effort to solicit funding.

Currently universities have several masters, each with its own agenda. A plan in and of itself would be insufficient to provide the restraint necessary for governance. Stable, long-term funding models that incorporate the varying missions of the universities would be necessary. Intelligent, reasoned leaders who look to the long-range future of the universities as a system rather than battles of individual fiefdoms are a must.

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